

ent than that of the adulterated oil and was of a lighter color; also the nitrous fumes rose more rapidly through the pure oil. One curious fact noticed about the adulterated lard oil was, it could not be completely saponified with caustic soda; even when the latter was added in excess a clear layer of unsaponified oil remained after several trials. This test clearly indicated adulteration, as pure lard oil will completely saponify with caustic soda. Prof. Allen has proved that shark liver oil and African fish oil resist saponification. He tried to saponify the former oil with aqueous potash, with a solution of potash in absolute alcohol, and by heating it with solid potash, but it would not completely saponify, this he thinks is due to the fact that it contains a body allied to cholesterin, but fluid at ordinary temperatures.

Pure lard oil gives with nitric acid of Sp. Gr. 1.33 a yellow color approaching orange.

The adulterated sample of lard oil with nitric acid of the same strength gave a distinct brown color on standing. That portion of the oil which resisted saponification with caustic soda was treated with nitric acid, and it soon became of a deep coffee brown color, much darker than the above.

The determination of specific gravity is the most important of the physical tests. The viscosity of an oil is a highly important feature, but in order to be of any value in testing much care must be observed; both oils must be brought to the same temperature and kept so while flowing. Both the adulterated and the pure lard oil were subjected to this test, they were brought to a temperature of 80° F. and 5 c. c. of each oil was passed through a capillary tube. The pure oil required 960 seconds to pass through, while the adulterated oil required 1080 seconds. The experiment was repeated several times with different tubes, but the ratio of the times of flowing was constant. Both oils were subjected to a temperature of 32° F. When the pure oil was frozen it was more coherent and firm and much lighter in color; the adulterated sample was quite yellow. When the adulterated oil slowly became liquid a layer of yellow oil formed first, which was quite different in appearance from the other portion and was evidently the adulterant.

While we cannot depend on any single test, the evidence afforded by several is often conclusive and satisfactory, and in this case it was acknowledged afterwards that cotton seed oil was one of the adulterants.

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## THE ARUBA LANGUAGE AND THE PAPIAMENTO JARGON.

*By Alb. S. Gatschet, Washington, D. C.*

*(Read before the American Philosophical Society, July 18, 1884.)*

Aruba is the westernmost isle of the group of islands which extends from east to west along the northern coast of South America at a short distance from the mainland. It lies north of the peninsula of Para-

guana, Venezuela and north-east of the entrance to the Gulf of Maracaibo; it belongs to the dominion of the Dutch in the West Indies, which extends over the following islands: Aruba (preferable to the orthography: Oruba), Curaçao, Curaçilla at the south-eastern cape of Curaçao, Bonaire or Buen Aire, and the two Aves or Bird islands. Curaçao is the largest island of the archipelago and consists of a barren rock almost devoid of vegetation; the capital of the Dutch colony, Wilhelmstadt, is built upon its south-western shore. In former times the thrifty inhabitants accumulated wealth as the mediators of a lively smuggling trade between the Spanish and other colonies of the West Indies. Salt is now the staple produce of Curaçao with its 22,000 inhabitants; as to its size, it is nearly three times larger than Aruba, which has 200 square kilometres and 5670 inhabitants.

The explorer Alphonse L. Pinart, from whom the linguistic material printed below was obtained, visited the Curaçao group in the summer of 1882. Although the natives of Aruba have since A. D. 1800 abandoned their paternal language for the Papiamentu jargon, their exterior is still of a pure Indian type. The Aruban language was probably the same as that of Curaçao and related to the vernacular of the peninsula of Paraguana. From natives far advanced in age Pinart succeeded in obtaining a few terms of the Aruban language and of local nomenclature, also six sorcerer's formulas, and from the Papiamentu, as spoken at present, he secured a limited number of plant and animal names evidently pertaining to the extinct Indian dialect; the number of these may be easily increased by future travelers.

An old Aruba Indian, recently deceased, witnessed at the former Indian encampment at Saboneta the inhumation of a native female in one of the large conical ollas, her body being doubled up within the vase and the head protruding through the orifice. A smaller urn was then placed upon the head, bottom up, and the whole covered with earth. Several Aruban grottoes and rock-shelters yielded inscriptions and pictographs to the explorer, who considers their style as related to the pictography of the Orinoco and Apure countries. Fragments of pottery, hatchets made of shells and stones, are profusely scattered around the ancient encampments of the native Arubans.

The name of *Curaçao* island seems to be the Tupi word *coaracy*, *curassé sun*, in Guarani *quaraçá*; *Aruba* resembles the name of a shrub which is called in French Guyana: *arube*. Nicolas Fort y Roldán, in his *Cuba indígena* (Madrid, 1881), p. 125, gives *arabo* as the name of a plant as heard once on the Great Antilles. For Curaçao compare: Navarrete, *Collección de los Viajes*, III, pp. 259.

*Nouns, verbs and sentences.*

adamudu *rain*

bāru xantu uŋu *to ask for something to eat*

ḍanšhikki, ḍanšēbu *sack, pouch*

datiē ! *be gone!*  
 kāfa *devil, wicked spirit*  
 kanla (?kaula) *thing, object*  
 kantie baulēte ! *give me to eat!*  
 karebe *spoon*  
 λāba dōboχedan *guayete ! sit down!*  
 χida mēo ! *good morning!*  
 χomoi *phantom, hobgoblin*  
 χute kontābo ? *how do you do?*  
 totumba, waidānga *water-gourd.*

*Names given to Aruban mountains and heights :*

Aiyo, Behika, Cukūroi, Handebirari, Kasinari, Kibaima, Kodeko-dēktu, Matīvidiri, Shabururi, Shiribana, Tarabana, Wakubana, Yabarubari, Yamanota.

*Names of Aruban caves :*

Matīvidiri, Warerūkuri, Waririkiri.

*Names of Aruban places ("endroits") :*

Antikūri, Arikurari, Bedūi, Bushiribani (?), Cūbari, Damāri, Hendieku, Kamakūri, Kashiunti, Kausheati, Kassibari, Warirūri, Webūri, Yuditi.

*Names of Aruban trees :*

dabaraida ; hubādā tarabada.

*Names of plants :*

dividivi *fruit of Sapindus coriaria*  
 jobo *Spondias lutea*  
 kadushi *Cereus luniginosus*  
 kipopo *Agaricus*  
 lokiloki *Mimosa unguiscata*  
 makura *Abrus precatorius*  
 nandu *Cytisus catjan*  
 shimaruko *Malpighia glabra*  
 surun *Cratera gynandra*  
 takamahak *Ragaria octandra*  
 tuturutu *Robinia pulcherrima*  
 watapana *Sapindus coriaria*  
 yoroyoro *Therctia neriflora.*

*Names of fish :*

ginga *Diodon atinga*  
 karmā-u *Characinus cyprinoides*  
 kurkur *Chatodon fromitus*  
 puruntsi *Serranus variolosus.*

*Names of birds :*

kinikini *Cymindes illigeri*  
 krabete *Fulica* — ?  
 shushubi *Orpheus americanus*  
 warawara *Cathartes curasoica*.

*Insects and other animals :*

dori *Rana* (— ?)  
 guruguru *Calandra granaria* (a beetle)  
 hanahana *Formica cephalota*  
 kimakima *Cassiopea frondosa* (a rhizopod)  
 kumexen *Termes fatalis*  
 lembelembe *Conops sanguisuga* (a dipteron)  
 mamondenga *Ichneumon niger*  
 paluli *Mytilus edulis*  
 waltaka lizard.

Several of these names are formed by duplication of the (dissyllabic) radix, a process occurring in many languages to indicate formation by onomatopoesy, or diminutive nouns, or objects existing in large numbers.

## EXORCIST'S OR CONJURER'S FORMULAS.

*Maledictory formula :* xerebête den kāfa magolotchi.

*For frightening children :* tue daye datiē' gidio' dimi guriō yatabo.

*Two formulas to remove cactus-spines from the human body :* (1) una areya rafayete dudrea ebanero abonō, caburo copudabo daburi.

(2) yuni roba rapebo tchaba na aripebo, dūda banabo pebo, home daba burvo, damei bo bakuna, daodao fuda dada.

*Formula to remove fish-bones or other obstructions from the throat :* vidiē pahidiē, maranakō tubara tchira deburro, hadāra karara.

*Formula for hunting the iguana :* Sako den komanari manadi watapuna fāfa na douēre sadii na ditieri.

When A. L. Pinart gathered these formulas, he found it impossible to obtain any interpretation for the single words. When I remarked to him that such formulas of sorcery were often made up of unmeaning sounds and words, he scouted the idea, and said these sentences were literal quotations from the extinct Aruban tongue. It will be noticed that several words in them occur in the lists above: kāfa, datiē, watapuna (cf. wata-pana). In the formula preceding the last one, some rhythm resembling assonance is perceptible.

In making a study of the above lists, I have endeavored to classify the lost Aruba language among some of the circumjacent linguistic families. But the peculiar selection of the terms, which are very uncommon, the paucity and probable disfiguration of them in the mouth of the uneducated people have not permitted to find any other but passing analogies with the

above. Goajiro, which is spoken from the point of the Goajira peninsula down to the Gulf of Darien in various dialects, yielded the following :

Aruba : *kāfa devil*, Goaj. *yarfás*, *yarlá*, *yarójá*.

All the other terms which I could compare with Goajiro, Guamacó, Arawak, Tupi and the éxtinct male and female Carib dialects of the Leeward islands (dialect of Guadeloupe, Dict. of Rev. Raym. Breton, 1665) differed entirely from Aruba. Hagē, the generic term for *ant* in the insular Carib, may be compared with *hanahana*, *Formica cephalota* of Aruban.

#### *The Papiamento.*

On account of the peculiar selection and association of their ingredients, and the grammatic changes which the terms are undergoing, the jargons or medley languages are now being studied by linguists with the interest they deserve. The best known jargons of America are the conversational Tupi or *lengoa geral*, the various negro jargons of Guyana, of the West Indies and of Louisiana, the Chinook jargon, etc. The main ingredient of Papiamento, which is spoken upon Aruba, Curaçao and the rest of this island group, is the Spanish language ; then comes Dutch, the language of the Netherlandish rulers, and least in frequency are the words of Indian origin.

The character of this medley speech will best appear from extracts taken from a "Conversational Guide," published at Curaçao, 1876.

Span. *comerciante* : *comerchanti*, *cajero* *cajeru*, *tenedor de libros* *tenedó di buqui*, *dependiente* *clerc*, *relojero* *dreshadó di oloshi*, *pastelero* *trahadó di pastechi*, *carneceró* *matadó di bestia*, *silletero* *trajadó di stul*, *ojelatero* *blequero*, *velero* *seilemaker*, *aserrador* *zagdó di palu*, *encuadernador* *trajadó di buqui*, *sastre* *sneire* (Germ. *Schneider*), *zapatero* *zapaté*, *albañil* *meslá*, *herrero* *smet*, *remendador* *lapidó*, *predicador* *domí*, *director de entierro* *forlese*, *sepulturero* *coster*, *consejo del templo* *kerkerad*, *púlpito* *prekstul*, *comunion* *ricibimentu*, *campanero* *leidó di cloc*.

The following objects of natural history are partly rendered by aboriginal Indian terms : Span. *árból de uva* *palu di dreif*, *árból de mamón* *palu di quenepa*, *árból de merey* *palu di cachú* ; *árból de guayaba* *palu di guyaba*, *pájaro* *para*, *yegua* *meri*, *mula* *mula mujé*, *burro* *machu*, *burra* *buricu mujé*, *mono* *macacu*, *rata* *yacá*, *pulga* *pruga*, *lombriz* *bichi*, *golondrina* *souchi*, *hormiga* *bruminga*, *cucaracha* *cacalaca*, *gavilan* *guaraguara*, *pollo* *púitu*, *pavo* *calacuna*, *papagayo* *lora*, *ciempié* *disinbei* (Dutch), *pauji* *pajuis*, *migajas* *wiriwiri*, *cante* *conufes* (a fish), *zavalo* *snuc* (a fish), *arenque en salsa* *pequelé* (Dutch), *chimbobó* *guiambó*, *akullama* *pampuna*, *techoza* *papaya*, *aji* (or *chile*) *promente* [Span. *pimiento*], *cambur* *bacoba*, *guanábana* *sorsaca*, *plátano* *banana*, *chirimoña* *ó riñm* *scopapel*, *piña* *anaza*, *naraja* *laraja*, *ciruelas* *preimu*.

We add a few conversational sentences :

*Debe ser tarde* *mesté* a lat

*No espera* *Usted al Sr. L.* ? bo no ta sperá shon L. ?

*Vé a ver otra vez si ha venido bai ueita atrové cu él á bini.*  
*El Sr. L. está en casa? Shon L., ta na cas?*  
*Ha ido fuera ela vai afó*  
*Hablas bien bo ta papia bon*  
*Lo estimaré siempre lo mi stimabu tur mi vida*  
*Quiere Usted jugar carta? mener quié jungá carta? (mener: mynheer)*  
*Mo tengo ganas de jugar mi non tin gustu dé jungá*  
*Ha comido Usted bastante? bo a comé jopi?*  
*Es bastante léjos ta machá aleu*  
*Estoy aun un poco débil ainda mi ta un poco suac*  
*Cuantas iglesias hai aqui? cuantu misa tin aqui?*  
*Muchas en el campo jopi na cunucu.*

The above examples plainly show that this jargon exhibits the same processes of linguistic deterioration as are commonly found in medley languages of this description.

Three dialects may be distinguished upon Curaçao island (Guide, p. 49): that of the Dutch Protestants, marked by the peculiar accent of the Hollanders; the one of the Jews, which comes nearer to the Spanish pronunciation; the third dialect is that of the common people. The term *papiamento* signifies *talk, conversation* and is derived from *palabramentum*, *palabra* being the Spanish for *word, talk* (from *παραβολή*). The verb *papiá* means *to converse, speak*.

At Corsouw a weekly paper of four quarto pages was published from 1871 to 1875 in this jargon, which bore the title: *Civilisadó. Courant di pueblo. Orden, trabouw, instruccion:—Progreso.*

Judging from the titles below transmitted by the kindness of Mr. Pinart the literature of this isolated form of human speech has been up to the present time chiefly of a devotional character:

*Guia para los Españoles hablar papiamento, y viceversa, para que los de Curazao puedan hablar español. Por N. N.—Curazao, imprenta del Comercio, 1876. 16°, 86 pages. (The title on the book-cover differs slightly from the inside title above.)*

Jubileo di 1875. (Curazao) 1875. 16 p., 12°.

Historia corticoenan for di Bybel. 3ª edicion. Curaçao, Impr. del Vicariato, 1876. 24°. 4ª edicion, 1881.

Bida i sufrimentoe di nos Senjor Hesu Cristoe. Curaçao, Impr. del Comº, 1876. 59 pp., 16°.

Canticanan religiosa. 2ª edicion. Curazao, 1879. 24°.

Ciento cuenta corticoe. Boeke di leza pa uso di school. Curaçao, Impr. del Vicariato, 1881. 12°.

Boeki di leza pa uso di skool di dia domingo na Curaçao. Curaçao, 1881. 24°.

Catechismo i doctrina cristiana pa uso di Katholieken di Curaçao. Curaçao, Imprenta di Vicariato, 1882. 24°.

Rekenboek pa muchanan di Curaçao. Curazao, 1882. 24<sup>o</sup>.

Sagrado coerazon di Hesus ó meditaciounan pa luna di juni consagrar na S. coerazon i no bena na honor di es coerazon sagrado. N. L. and N. J. 206 pp., 32<sup>o</sup>.

A treatise on the Papiamento jargon was published by Emilio Teza in the *Politecnico* of Milan, Vol. xi, and also separately: *Il dialetto curasense*, Pisa, 1863. 8<sup>o</sup>.

#### APPENDIX.

(From manuscripts transmitted by Mr. Alph. L. Pinart.)

#### I. *Prayer to the Holy Virgin in the Karibisi dialect (Karibisi tongo) of Surinam.*

ODI MARIA,

Jeretion Maria pololé genade tamoeni romo mālōmā āmōro Kopo papō-rijān Kopo papori walijan Santa Maria tamoeni sāno sēroēpā toko wango-nibō pōkō ērōmē koman bōkō alambœ pōmēra. Kepobome.

#### II. *Lord's Prayer in the Cuna language, as spoken on the Pacific slope of the Isthmus of Panamá. Reproduced in a corrected form from the American Antiquarian, Vol. v (1883), p. 354.*

Patir nanguini, pechiqui niptalnegā iiperekuichi ;  
 penukaguine petakeanguine pebiluleguine ;  
 pebalehas pepincheerguin, napkine pagaiopi niptalneguin ;  
 maatuda nanguin pan epanegun, emigoatguine ;  
 peanalchagogue animalguin, pel anniappigua ;  
 peanalchugo pel anayuppigua pelibanguimbi ;  
 pel imalistarguin ipeanaalehago, okuja Jesus.

patir or papa father, nanguini our ; maatuda to-day, pan bread, pe thou, goat give (in emigoatguine), -guine plural suffix.

#### III. *Prayer to Christ in the Sambú dialect of Chocó, Columbian States.*

Naniuri biaunausi zese guanadi, mune-é mule Jesu Cristo zese umaquina etaupen zese redentor mune-é, maquiniamur umaquiniamur, zanaambul umandu caidebu tandé caidebu tandé caidé, zegabur careambur troadena, zaum beuatde, latiguai, cauai nambicansi conveyainame cumli-i penitencia caima majorasnane convesai naninanei.

Pidele perdon a Dios, digas Señor mio Jesu Cristo, Dios y hombre, criador padre y redentor mio : pesame de todo corazon de haberte ofendido sólo por ser quien eses tan digno de ser amado, y tambien me pesa porque me puedas castigar en el infierno, y propongo nunca mas pecar ayudado de tu divina gracia, confesarme y cumplir la penitencia que me mande el padre confesor.